

METZ CARS

Metz "Twenty-Two"

*Arranged and Printed by the
Perry & Searle Co.
Lynn - Boston*

METZ "TWENTY-TWO"

FOUR-CYLINDER ROADSTER

Torpedo Semi-Enclosed Body

Completely Equipped

\$475.00

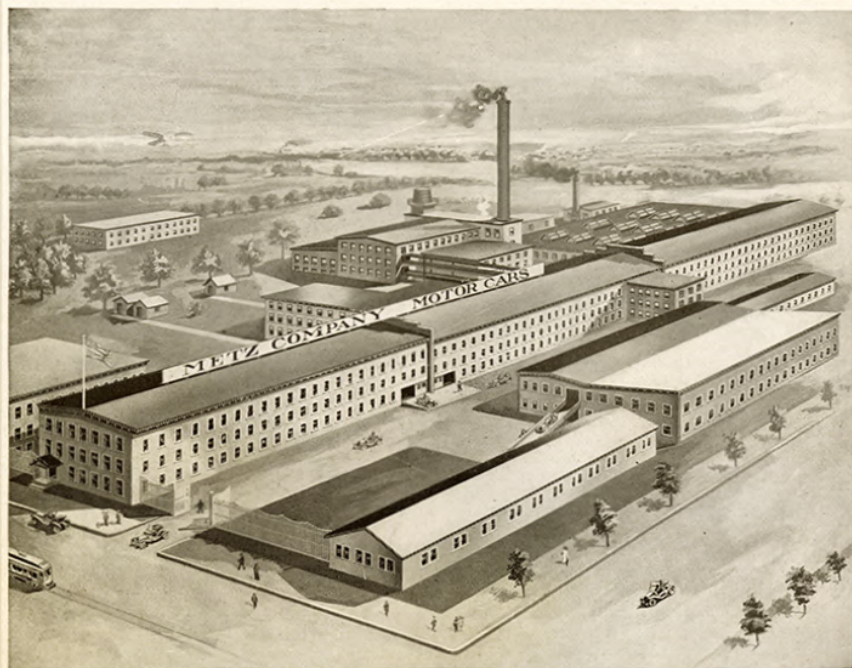


The Metz Twins

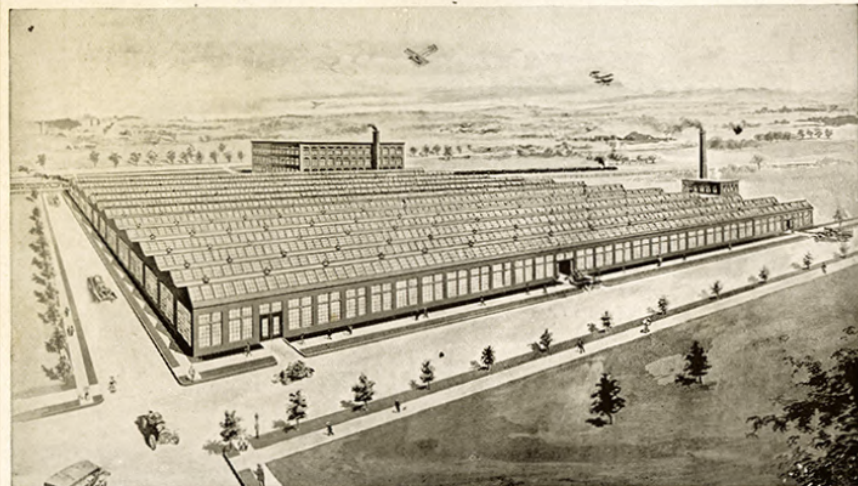
METZ COMPANY

WALTHAM, MASSACHUSETTS, U. S. A.

Metz - "Twenty Two"



Crescent Park Plant



Gore Street Plant

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Administration Building

THE first essentials to be taken into consideration in the purchase of an automobile are cost, upkeep, and durability. The purchaser is naturally anxious to get the car best adapted to his use, one that will give him the least trouble, make the best performance, and prove economical in first cost, as well as cost of maintenance.

In the METZ "22" we have given the greatest value for the least money, and with the 1914 improvements we are offering still greater value in this car.

The GEARLESS TRANSMISSION, or what is better known as the METZ "22." This simple and effective form of transmission fulfills the requirements of this car much better than would any of the more complicated gear types.

The GEARLESS TRANSMISSION, which consists of a metal alloy plate running in contact with the fibre wheel, is in plain sight and is so simple that it can be easily understood by the man who knows nothing whatever of mechanical construction. In addition to its accessibility, as well as its low cost of upkeep, there are many other points which tend to make the GEARLESS TRANSMISSION superior to the gear driven machine.

One of these points is the elimination of the clutch, which is a source of trouble in many gear driven cars. In our GEARLESS TRANSMISSION car there is no clutch, the contact being made by pressing the metal disc against the fibre wheel.

The METZ "22" with the GEARLESS TRANSMISSION is more flexible and much more easily handled than the gear car, and can be driven by the novice after a few minutes' instruction. It is a well-

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known fact that a great many operators driving sliding gear cars are not sufficiently versed in the handling and construction of the car to use it judiciously and without great damage to the transmission, resulting not only disastrously to the car, but also to the pocketbook of its owner.

high gear to resort to a very low gear as the only alternative, and thus grind over the hill, much to the discomfort of the operator and passengers. The high gear in cars of this type is not usually as high as it should be for the ordinary road conditions, owing to the fact that the

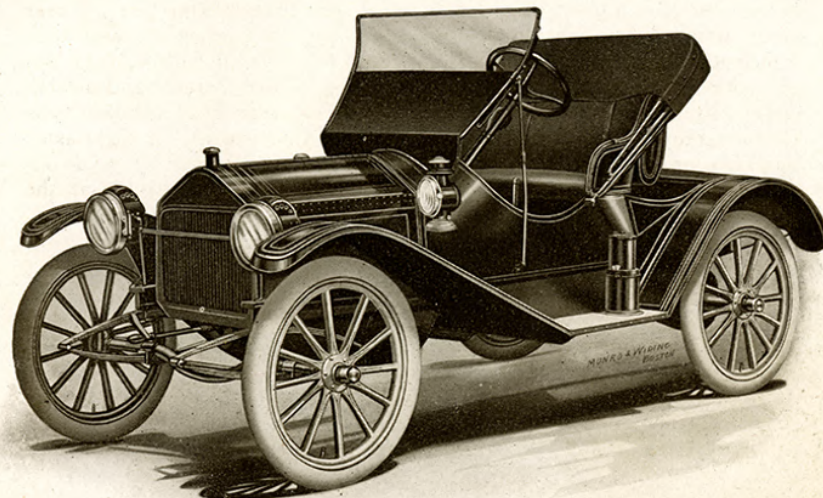


River Street Plant

The GEARLESS TRANSMISSION car is also a much better hill climber, power considered, than the gear driven types. In some gear driven cars, especially where there are only two gears, it is necessary in climbing a grade too steep for the

car has only two gear changes and that the lowest gear must be extremely low to meet the worst road conditions, whereas, with the GEARLESS TRANSMISSION there is a proper speed for every condition of road. If the hill is too steep to ne-

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gotiate on the high speed, it is only necessary to slightly shift the controlling lever, in order to procure a speed that will surmount the grade with ease.

It is a well-known fact that the METZ "22" is equipped with an extremely powerful motor, and, with its GEARLESS TRANSMISSION, it easily surmounts hills in a much more creditable manner than many so-called high powered as well as high priced automobiles. The operator of a METZ "22" in hill climbing need never take the dust of any other car.

The METZ "22" is substantially built of selected materials, suited for a car of this description. Various steels are especially heat treated as necessity requires. The car carries the regular manufacturer's warranty. It is the most economical car you can buy at any price. It will carry you from 28 to 32 miles on one gallon of

gasoline, 100 miles on a pint of lubricating oil, and 10,000 to 12,000 miles on a single set of tires—immensely important items as they mean that you can run a METZ Car cheaper than you can keep a horse and buggy.

The METZ COMPANY, in putting on the market a standard, fully guaranteed, 22 horse power, four-cylinder, completely equipped Roadster Car, at \$475.00, has scored an achievement that marks a new epoch in the automobile industry. IT IS THE FIRST company "to give the people of this country a strong, reliable, sane, really low-priced car."

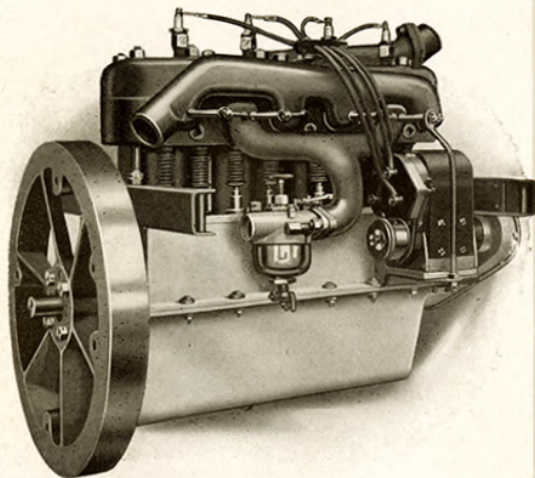
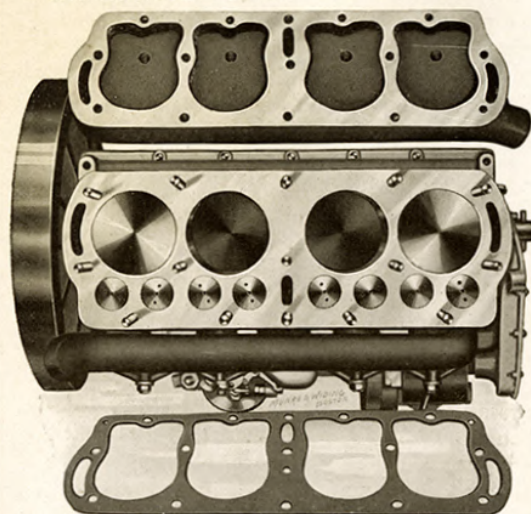
In the remaining pages of this booklet, we fully illustrate and describe the car in detail, and solicit on the basis of economy, appearance and performance, your valued order.

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Motor

The METZ is a four-cylinder motor, cast en-bloc, with removable water jacketed cylinder head, permitting free access to the combustion chamber, pistons, cylinders and valves, thus securing lightness, compactness, and the most efficient system of water-jacketing. To remove the cylinder head is the work of but a few minutes. Cylinder bore is $3\frac{3}{4}$ inches; piston stroke is 4 inches, and the standard rating is $22\frac{1}{2}$ H.P. Valves may be ground, and carbon removed from the combustion chamber with consummate ease. This form of construction has been very largely used in Europe, and is now being adopted by American Manufacturers.

Motor with head removed, showing valves and pistons exposed



View of Motor, Complete

The crank shaft is made of the highest grade of steel specially heat treated to insure the greatest degree of strength and toughness, and has three main bearings of superior bearing metal with long bearing surfaces.

The lower half of crank case constitutes the oil reservoir. The valves, push rods, and springs are completely enclosed, making their action noiseless, and excluding road dust and grit. This form of construction also eliminates the throwing of oil, which is a common fault with many motors.

Cooling

The motor is water-cooled by the thermosiphon system, forcing the water up through the cylinder water-jackets and thence

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to the vertical tube radiator. We use a large sized radiator of the highest grade, which insures proper cooling under all conditions.

Lubrication

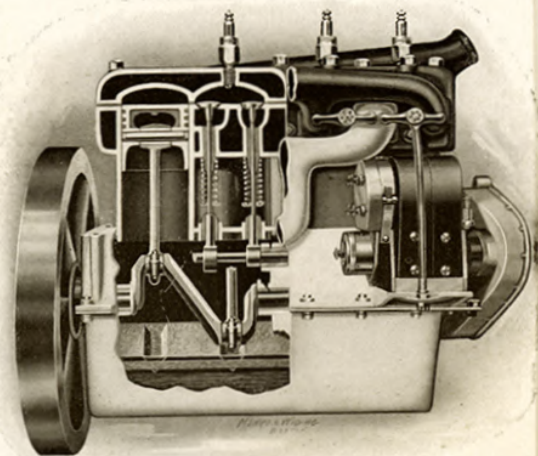
Our constant level splash oiling system is the simplest and most efficient. The oil is poured into crank case through breather pipe with funnel attachment on side of motor. The lower half of the crank case is so constructed that the bottom section forms a reservoir for oil. The oil pump distributes the oil to pockets directly beneath each connecting rod, and is positive in its action. More oil than is necessary is at all times supplied to each of the connecting rod pockets, but the overflow lever permits it to return to the reservoir. By this system of lubrication all of the motor parts are constantly supplied with an ample quantity of fresh oil, and there is no waste.

Carburetor

The motor is equipped with one of the best known and most reliable carburetors on the American market.

Gasoline Supply

The gasoline is carried in the military tank attached to the back of the seat. This position raises it high enough to furnish ample pressure by gravity to the carburetor. Capacity



Motor, showing sections through cylinder and valve chamber

of tank is sufficient for a run of about two hundred miles.

Ignition System

Bosch Magneto

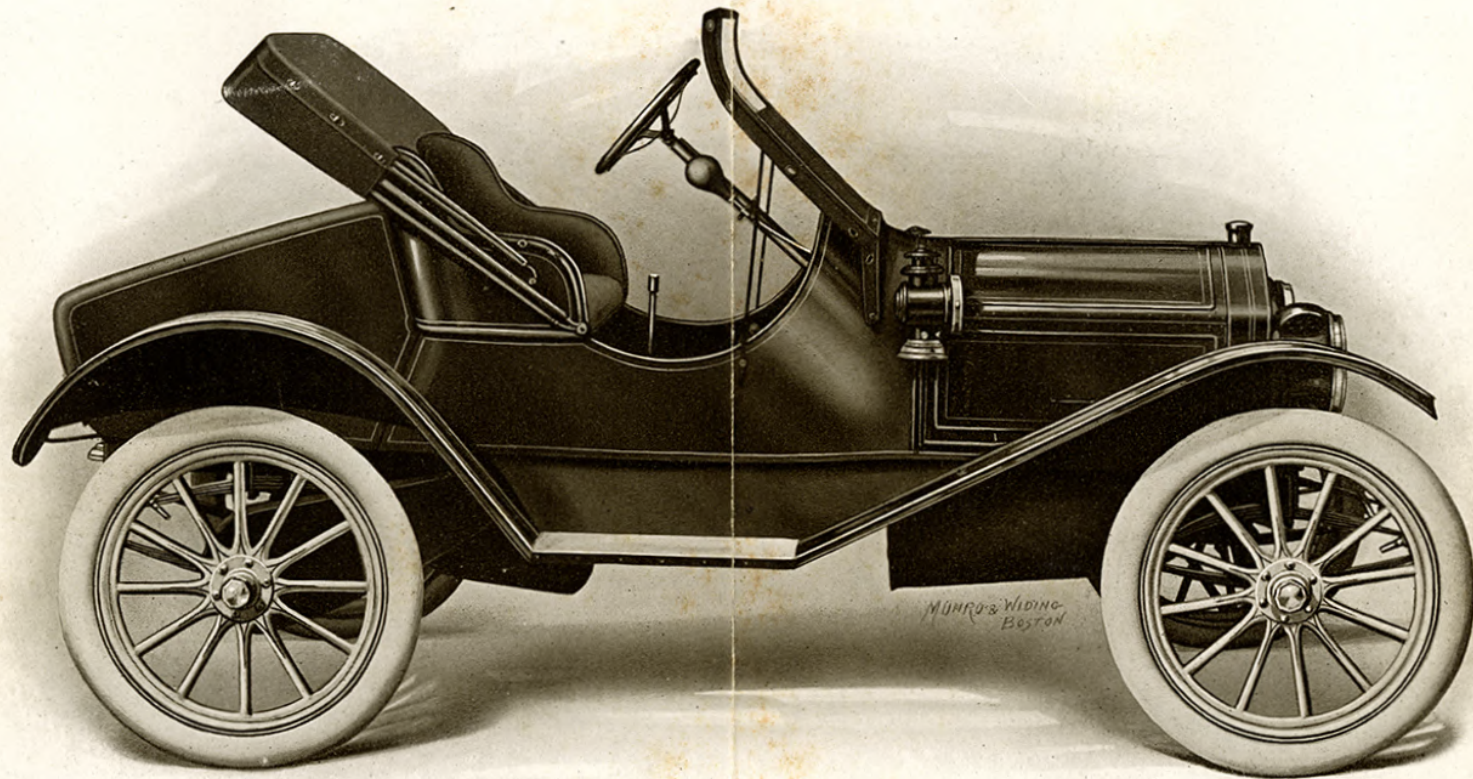
The METZ ignition system is of the high tension type, and the motor is equipped with the highest grade Bosch magneto. With the high tension system the current passes direct from the magneto to the spark plugs, and is the simplest form of ignition.

Transmission

The gearless transmission with which the METZ car is equipped is the simplest and most easily cared for drive known. The friction rim is composed of compressed fibre which possesses the maximum adhesion when used in connection with our driving plate of special alloy.

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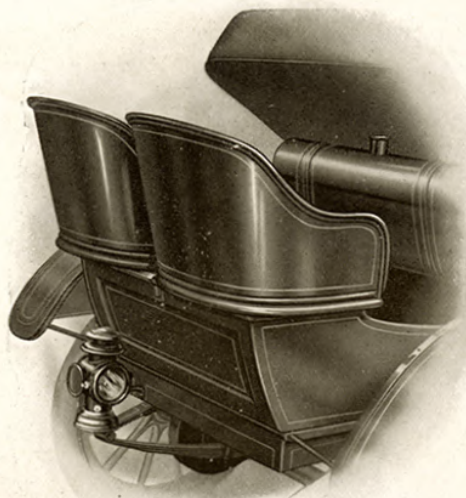
METZ "TWENTY-TWO"
THE GEARLESS CAR



NO CLUTCH TO SLIP
NO GEARS TO STRIP

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The life of the friction rim under normal conditions is from 3,500 to 5,000 miles, and the cost of renewal is but \$2.50, which is cheaper than the grease required for the ordinary transmission. When a renewal is necessary, we furnish a two-piece fibre ring which is dowelled together as one complete ring. With this improved form it is only necessary to remove the old ring, separate new ring by removing dowel pins, place same in friction wheel and tighten up bolts. The propeller shaft from the engine to the fibre disc is run on ball bearings of large dimensions and forms a straight line drive from the motor to the jack shaft. The final drive is from the jack shaft to the rear sprockets by chains running in oil.



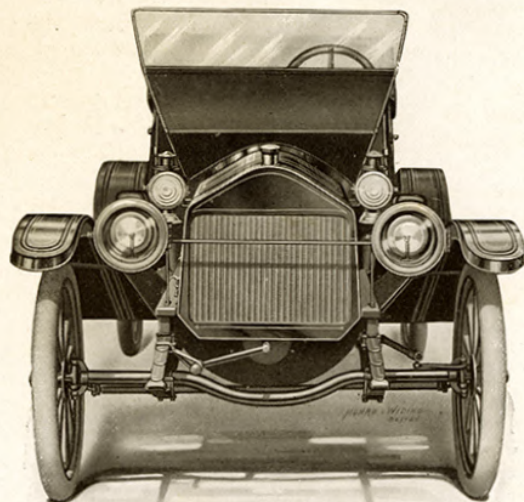
Rear of car, showing rumble seats.

Springs

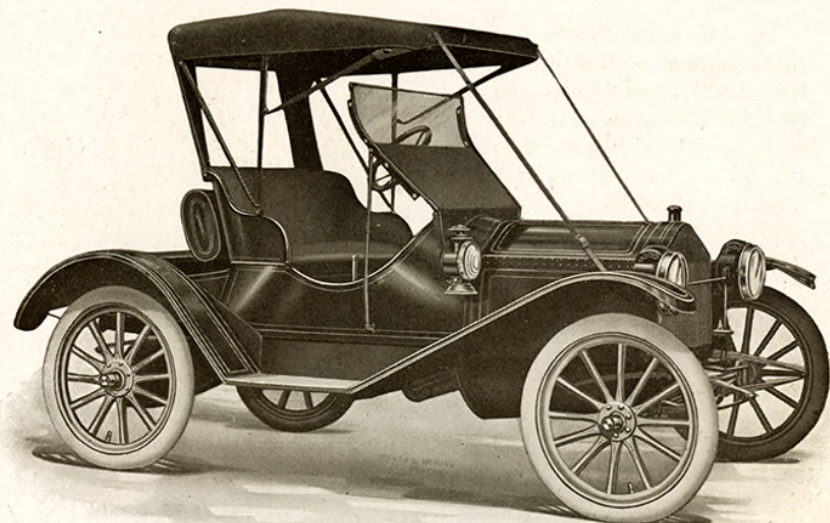
The easy-riding qualities of the METZ "22" Roadster constitute another feature in which it is far superior to other cars in the Roadster Class, and the equal of many touring cars. It is equipped with full elliptic springs, heat treated, carefully selected as to tension and weight so as to give the exact degree of resiliency desired.

Wheels

The wheels are of the standard artillery type, 30" x 3", fitted with Goodrich clincher tires of the best quality.



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Torpedo Semi-enclosed Body

The semi-enclosed body, a modification of the fore-door type, affords ample protection to the passengers and at the same time eliminates the trouble of opening and closing the doors, the idea in this design being to protect the passengers completely, but at the same time provide comfort in all seasons.

The space between the seat and enclosure is designed so as to permit of entering or alighting with the utmost ease.

The torpedo rear end is of ample dimensions to accommodate personal luggage and can be used to great advantage by traveling salesmen for carrying samples.

This feature in the METZ "22" will prove of great convenience to many persons using our cars.

The type of rear end combining tool chest which forms the base for rumble seat will be furnished where ordered in place of torpedo style, and is especially desirable for those who want to attach one or two rumble seats.

There is an additional charge for rumble seats as follows:—Single Seat \$7.50; Double Seat, mounted ready for attaching, \$15.00.

When ordering, it will be necessary to specify the style desired.

Top

The top is constructed with the idea of utilizing it, when not put up, as a dust shield. The bow sockets are carried by auxiliary brackets at the lower extremities of the seat rail, thus supporting the top, which is encased in a neat slip, in a slightly as well as useful position.

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Wind Shield

The wind shield, which is constructed of material to match the top and is mounted on a deflexible frame fitted to the enclosure, has a light of celluloid in the upper half. Removable side curtains, attached to the wind shield and side of seat, protect the occupants from dust or weather.

Finish

The color is dark blue, with cream wheels, making a very effective combination. Lamps are finished in rich black enamel and nickel trimmed, which adds materially to the general appearance of the car, and eliminates the endless amount of work necessary to keep a brass equipment polished.

Left-hand Drive

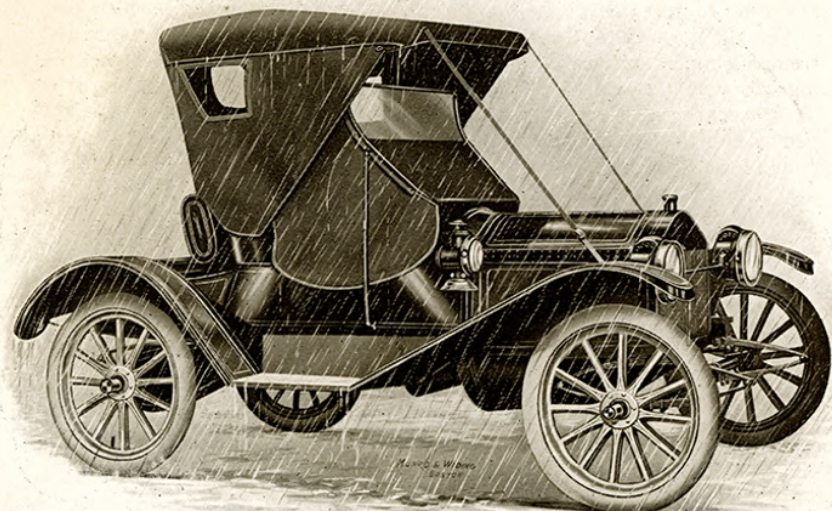
The left-hand drive is the most practical and convenient. The pas-

senger can more readily alight when the driver conforms to the regulations adopted in all large cities, and many smaller ones, requiring him to stop with his right hand to the curb; and a driver sitting on the left-hand side has a better view of other cars approaching him and of the roadway ahead, especially when driving behind another vehicle that he wishes to pass. The METZ "22" is equipped with left-hand drive.

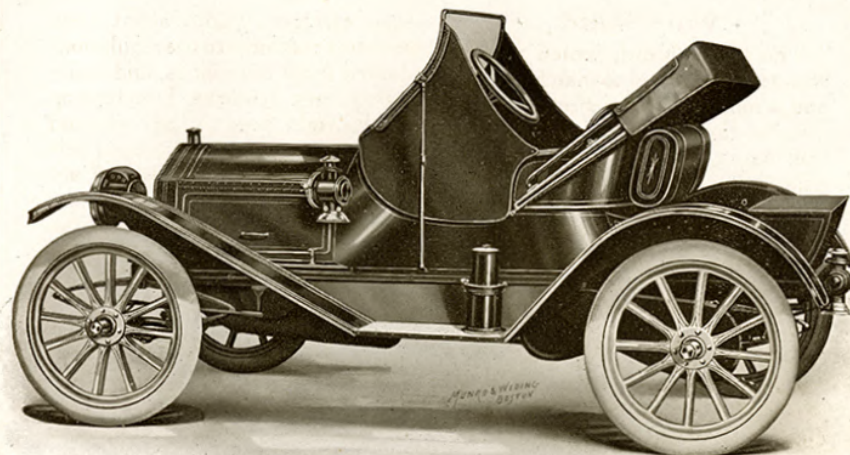
Center Control

The controlling lever is placed in center of car in accordance with the latest practice, enabling the operator to shift speeds easily and quickly. It is of steel tubing with cap on top which, when pressed down, permits shifting to any speed desired.

The center control leaves both sides of the car clear of encum-



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brances, and permits entering from either side. While the center control is a desirable feature at all times, it is especially so in stormy weather, as it is not necessary to reach outside of the car to shift the speeds.

The changes of speeds are extremely simple, and consist of shifting the lever forward or backward, as the case may require. Foot pedals also form a part of the controlling mechanism, two of which operate the brakes, the other the clutch. Throttle controlling lever is on steering column.

Accessibility

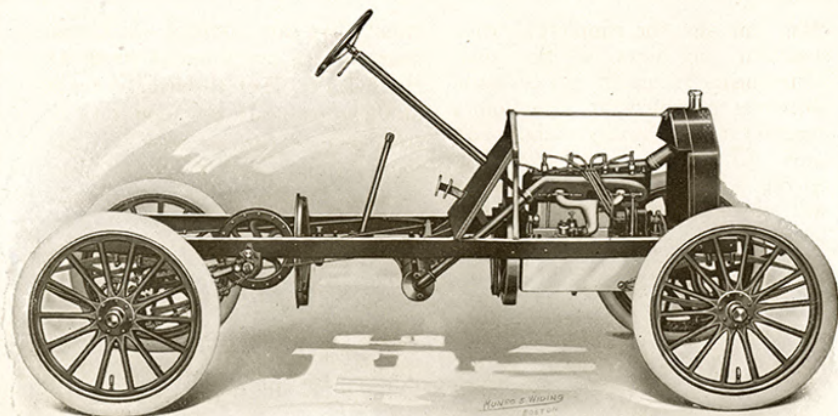
A description of the METZ "22" would not be complete without a few words regarding the ease and simplicity with which the various parts of the car can be removed or renewed. Every part from the motor to the

rear axle is readily accessible to the operator.

The motor is so designed that almost any work necessary can be done without removing it from the chassis. The head is removable, which permits free access to the pistons, cylinders and valves. To detach the valve enclosure, necessitating the removal of three bolts, is the work of but a few moments. The lower half of the crank case can be readily removed, thus permitting the tightening of crank shaft bearings when necessary, or the examination of any part of the oiling system. The magneto and carburetor are placed in positions where both are readily accessible. The hood is of the hinged type, which permits easy access to the engine.

The transmission of the METZ "22" is particularly accessible. The forward end of the shaft is easily

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reached without removing the engine pan, while the disc and fibre wheel can be handled by detaching the spiral springs and removing the transmission pan. There is no other transmission more readily accessible than the friction drive.

The dust or sod pans under both the motor and transmission are not solidly riveted to the frame as is the usual custom, but are more advantageously held in position by strong spiral springs; and in the event of its being necessary to remove them at any time they can be quickly detached, dropping one or both of the pans as necessity may require.

Chains Easily Inspected

The chain cases are so constructed that by the removal of one small bolt the flexible rear end can be lifted up when it is necessary to re-oil the chain; or if further inspection is desired, the sliding top of case can

be withdrawn. When chains run in oil, enclosed in cases, the wear is almost imperceptible. The chains used on METZ Cars are the best that can be procured and with our method of protecting and lubricating them they should run indefinitely.

Simplicity, Satisfaction, Economy

There is no part of a METZ Car that cannot be readily reached by the operator desiring to make his own adjustments; and in the event of his having such work done at a garage, its cost should be materially reduced, owing to the easy accessibility of all parts.

Motor cars, regardless of price, will not run forever without adjustment and repairs. Like any other piece of machinery, they require attention from time to time. And in designing and building the METZ "22" it has been our aim to make it not only the most powerful car in the Roadster

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class, but also the simplest in construction and parts, so that such adjustments or repairs can be made whenever necessary at a minimum expenditure of money, labor and time. The longer you own and operate a METZ Car, the more you will appreciate the advantages and satisfaction of having all parts readily accessible.

A Great Hill Climber

Prospect Hill, Waltham, one of the highest points of land in the vicinity of Boston, is reported by the City Engineer as varying from 5 to 21 per cent. grade. METZ Cars negotiate this hill, which is nearly a mile long, on the high speed. We have yet to hear of any other stock car, regardless of its power or price, that can do the same.

Glidden Tour

Won by the METZ "22"

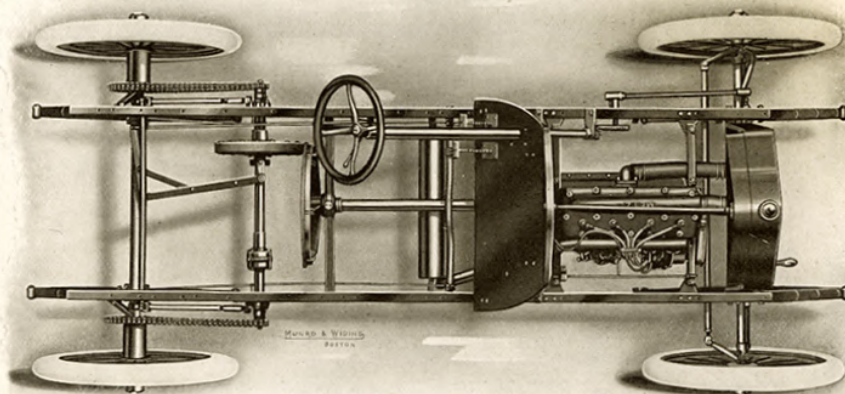
The last Glidden Tour was won by the METZ "22" against a field of

twenty-five cars, some of which cost from five to ten times as much as the METZ. Yet the METZ team of three cars was the ONLY team that held a perfect score for the entire eight days of the contest, without allowance or time extension of any kind.

The best that could be shown by the nearest competing team was a perfect score for the first day only.

The course was from Minneapolis, Minn., to Glacier National Park, a distance somewhat in excess of 1,300 miles, and included every imaginable kind of rough going.

There were long stretches of bad roads in Minnesota and Dakota, and in passing over the Rocky Mountains of Montana, many difficult hills were encountered. Yet throughout the eight days of the contest, the METZ team ALWAYS CHECKED IN AT EVERY CON-



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TROL without additional allowance or time extension of any sort, thereby winning in a clean sweep not only the Glidden Trophy, but also the special Trophy offered by the *Minneapolis News*.

And the record of the METZ team is also the individual record of EACH of the three cars in the team. ALL THREE of the METZ Cars maintained absolutely perfect scores throughout the tour, thus proving to the satisfaction of every one that in the outcome of the contest, which proved such an overwhelming victory for the METZ, there was no element of luck.

The METZ Cars won the tour simply because METZ Cars are thoroughly *practical* cars. They are so clean in design, so free from foolish frills, and so compact in construction that they stand up perfectly under actual tests that send to the repair shop, cars costing many times the price of the METZ.

Incidentally, the METZ Cars were the only cars in the tour equipped with GEARLESS transmission. Therefore, if any one ever did entertain a doubt as to the superiority of GEARLESS transmission over the geared type, the above performance

of the METZ Cars certainly must dispel it.

And bear in mind, there was nothing unusual or different about these three METZ Cars that walked away with the Glidden Tour so handily. They were our regular stock cars, the identical METZ "22" that it is your privilege to buy, completely equipped, for \$475.00.

Manufacturing

METZ Cars are built exclusively in our own works. During the past year we have added greatly to our facilities for the manufacture of these machines, and in addition to several new factory buildings, have installed large quantities of automatic machinery of the latest type. We build in our own works more than 95 per cent. of the parts which go to make up the METZ "22."

Metz "22" Roadster

Four-cylinder, water-cooled, 22 horse power, torpedo semi-enclosed body, center control, standard equipment throughout, including Bosch magneto, extension top and slip cover, wind shield, gas lamps and gas generator, dash lamps, tail light, horn, set of tools, tire pump, and full tire outfit, complete,—for \$475.00.



Glidden Trophy
Won by the METZ "22"

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SPECIFICATIONS

MOTOR—4 cylinders, cast en-bloc— $3\frac{3}{4}$ " bore, 4" stroke. Valves, push rods, and springs completely enclosed.
VALVES—Enclosed, liberal in size, inlet and exhaust, right-hand side.
COOLING SYSTEM—Thermo-syphon.
WATER CAPACITY— $3\frac{1}{2}$ gallons.
CARBURETOR—Float feed automatic.
HORSE POWER—22½ H. P.
IGNITION—Bosch high tension magneto.
LUBRICATION—Constant level splash system, operated by pump.
FRAME—Pressed steel channel section.
SPRINGS—Full elliptic all around.
WHEELS—30" standard artillery type.
TIRES—Goodrich clincher, 30" x 3".
BRAKES—Internal expanding brakes on rear wheels. External contracting brake on jack shaft, also friction wheel applied on reverse.
WHEEL BASE—90 inches.
DRIVE—Friction drive, with chains enclosed running in oil.
DIFFERENTIAL—Contained in jack shaft unit, completely housed in oil tight case, and easily accessible for inspection.
BODY—Torpedo semi-enclosed of metal mounted on wood framework.
COLOR—Dark blue with cream wheels.
FENDERS—Attractive design, securely fastened to frame enclosing completely entire length of car.
CONTROL—Center control, as described. Foot pedals, operating brakes and clutch. Throttle adjusting lever on steering column.
STEERING GEAR—Rack and pinion adjustable for wear.
GASOLINE TANK—Capacity 7 gallons, which should provide a mileage of over 200 miles.
TREAD—Standard.
SHAFTS—Crank and cam shafts, drop forged, heat treated, with all surfaces ground to absolute accuracy.
BEARINGS—Superior white metal in motor, ball bearings in transmission and wheels.
SPEED—5 to 50 miles per hour on high gear.
CLUTCH—Friction plate, applied to driving ring.
WEIGHT—Completely equipped, 1,100 pounds.
GEAR RATIO—3-1 on high gear.
PRICE—Including equipment, \$475.00 f.o.b. Waltham.
EQUIPMENT—All METZ "22" models are sold completely equipped, and none will be sold unequipped. The standard equipment includes 30" x 3" best quality Goodrich clincher tires, Bosch high tension magneto, extension top and slip cover, wind shield, gas lamps and gas generator, dash lamps, tail light, horn, set of tools, tire pump, and full tire outfit.

Manufacturer's Warranty

The Manufacturer warrants for one year from date of invoice all such parts as shall, under normal use and service, appear to him to have been defective in workmanship or material. If the circumstances do not permit that the work shall be executed in our own factory, then this warranty is limited to shipment to the purchaser without charge, except for transportation of the part or parts intended to replace those acknowledged by the Manufacturer to be defective. The Manufacturer, however, cannot accept any responsibility in connection with its motor cars when they have been altered outside of its own factory. It is further understood that the Manufacturer makes no warranty whatever regarding pneumatic tires or magnetos. The Manufacturer is not responsible to any purchaser of its goods for any undertakings and warranties made by dealers selling its product beyond those herein expressed.

